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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,443	02/20/2001	Hyeon Jun Kim	P-187	5049

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EXAMINER

WU, JINGGE

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/785,443

Applicant(s)

KIM ET AL.

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-18 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-2, 4-7, 8-18, 28-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. Applicants' response to the last Office Action, filed April 20, 2004 has been entered and made of record.
2. The rejection of claims 3 and 8 are rendered moot by applicant's cancellation of those claims.
3. Applicants' amendment has required new grounds of rejection. New grounds rejection are therefore presented in the Office Action.
4. Applicant's arguments with respect to claims 1-2, 4-7, 8-16, 32-33 regarding to Bergman have been fully considered but are moot in view of the new ground(s) of rejection.

Remarks

5. Applicant's arguments with respect to claims 17-18 and 28-31 regarding to Bergman have been fully considered, but they are not persuasive.

a. Applicant argues that Bergman does not compare the color spaces and quantization methods of the query multimedia data and multimedia data to be retrieved and then perform histogram conversion.

Examiner disagrees. However, in response to applicant's argument, Examiner would like to point out that claim language is given its broadest reasonable interpretation. In the instant case, Bergman clearly addresses the problem the different color space and histogram between the query multimedia data and stored multimedia data. (fig. 19, col. 13 line 57-col. 14 line 2). In addition, Bergman teaches that "[I]n order for the search engine to query the multiple archives, given a single query color

histogram Q (preferably generated by a user 1901), the search engine 1902 must transform that query histogram Q into the appropriate histogram color space of the particular archives 1903, 1904, 1905 (i.e., $F_1(Q)$, $F_2(Q)$, and $F_3(Q)$) respectively and those transformations are done by the transform functions F (col. 13, lines 39-55). Content-based searching across multiple archives requires transformation of the query histogram Q to be compatible with the specific content descriptions in each archives." (fig. 19, col. 13 line 60-col. 14 line 2). Needless to say to start transformation, one need to know whether or not the archived multimedia data is compatible with the query multimedia data, thus, the comparison has to be inherent. Furthermore, one skilled in the art would transform those color space and color histogram are not compatible with the archived multimedia data. Moreover, Bergman teaches using a InforPyramid model to describe a multimedia data (fig. 16). This model includes several standard descriptors, "such as color, texture motion, etc. for example, 166 bin color histograms derived from HVS color space may preferably be defined as : $HVShist:histogram(real)[166]$ ". (col. 13, line 3-7). Finally, the model includes also "[t]he fundamental description functions preferably comprises several classes, such as logic, similarity and transform functions, among others. Fundamental logic functions contemplated by the present invention may include, for example, "equal", "not equal", "greater-than", "less-than", "and", "or" "not" etc. as known by those skilled in the art." (col. 13 lines 24-29). Those functions clearly can be used for comparing different color descriptors for multimedia data, for example, using the function "equal" or "not equal" to two color space/histogram descriptors.

Therefore, it is clear to those skilled in the art that Bergman uses the descriptors to describe color spaces and histograms of each of multimedia data in archives and the query multimedia data. Bergman further inherently use the fundamental logic function to

decide those to be to be retrieved having different descriptors. If any difference found, the search engine will conduct "transformations of the query histogram Q to be compatible with the specific content descriptions in each archives." (col. 13 line 67-col. 14 line 2).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. Claims 1-2, 4-7, 9-11, 13-18, 28-33 and are rejected under 35 U.S.C. 102(e) as being anticipated by US 6564263 to Bergman et al..

As to claim 1, Bergman discloses a content-based multimedia retrieval system, comprising:

a first color quantizer which extracts a color histogram of query multimedia data (col. 13 lines 45-col. 14 line 2, a first quatizater can be myhist:histogram(interger)[512]);

a second quantizer which extracts a color histogram of query multimedia data (col. 13 lines 45-col. 14 line 2, a second quantization can be rgbhist:histogram(interger)[512] or HVShist:histogram(real[166] ,see in col. 13 line 7);
and

a histogram converter (fig. 19, Fi(Q), I=1, 2, and 3) which converts the color histogram of one of the extracted query multimedia data and the multimedia data to be retrieved into a histogram having a color space and color quantization method of the other of the extracted query multimedia data and the multimedia data to be retrieved. (fig. 19, col. 13 line 16-col. 14 line 2, see also remark).

As to claim 2, Bergman further discloses the multimedia data are image data or video data (fig. 9 and fig. 16).

As to claim 4, Bergman further discloses description means for describing color spaces and color quantization methods (e.g., rgb512, note that rgb describes RGB color space and 512 describes 512 bin histogram) (fig. 19, col. 13 lines 45-col. 14 line 2)

As to claim 5, Bergman further discloses converting the histogram of the query multimedia data so as to be corresponding to color space and color quantization method of the multimedia data to be retrieved (fig. 19, col. 13 line 18-col. 14 line 40).

As to claims 6-7, the claims are the corresponding method claims to claims 1-3, respectively. The discussion are addressed with regard to claims 1-3.

As to claim 9, Bergman further discloses:

judging whether the color histogram of query multimedia data is extracted before (fig. 19, col. 13 line 18-col. 14 line 40; note that finding whether the user generated histogram Q is the judgment);

reading a color histogram value extracted before (user generated before) and the multimedia data to be retrieved (archives) and identifying based color space and quantization method (fig. 19, col. 13 line 18-col. 14 line 40, note that it is inherent); and

converting the color histograms into the color histograms of the same color space and color quantization method when the histograms are not same (fig. 19, col. 13 line 18-col. 14 line 40).

As to claims 10-11, Bergman further discloses extracting the histogram when there is no user created histogram of the inputted query data (fig. 19, col. 13 line 18-col. 14 line 40), and the converting process is performed by referencing the color space description info and quantization info of the multimedia data to be retrieved and query data (fig. 19, col. 13 line 18-col. 14 line 40).

As to claim 17, Bergman discloses a content-based multimedia retrieval method, comprising:

comparing the color spaces and color quantization methods of the query multimedia data and multimedia data to be retrieved (fig. 19, col. 13 line 24-col. 14 line 2, see remark);

converting the color histogram of the query multimedia data when the color space and color quantization method of the query multimedia data and the color space and the color quantization method of the multimedia to be retrieved are different (col. 13 line 24-col. 14 line 2, see also remark); and

calculating a similarity between the converted query multimedia and multimedia data to be retrieved, and performing a retrieval in accordance with the calculated similarity (col. 13 line 24-col. 14 line 2, note that the fundamental similarity functions calculate the distance of different descriptors).

As to claim 18, Bergman further discloses converting the color histogram (myhist) of query multimedia to the color histogram of multimedia data to be retrieved (fig. 19).

As to claims 13-16, 28-33, the discussions are addressed with regard to claims 1-11 and 17-18.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergman in view of US 6512850 to Yaung.

As to claim 12, Bergman does not explicitly mention comparing the similarity with a certain threshold value which is well known in the art.

Yaung, in an analogous environment, discloses the well known concept (13, line 46-col. 14 line 67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Yaung in the system of Bergman to compare the similarity of histogram colors with a threshold in order to accurately identify the image to be retrieved.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

11. Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

